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# REPORT

OF THE

# NEW MEXICO COLLEGE OF AGRICULTURE

AND

# MECHANIC ARTS

December 1, 1904.

# REPORT.

*To the Hon. Miguel A. Otero, Governor of New Mexico:*

SIR: Herewith is respectfully submitted a brief report on the work and progress of the New Mexico College of Agriculture and Mechanic Arts.

The steady growth and advancement of the institution are shown in a number of ways. The attendance has not only gradually increased, but a very much larger per cent of the students enter advanced classes and take up regular college courses. The number today pursuing the regular four years' course is more than fifty per cent greater than two years ago. The number of Freshmen enrolled this year is 24 as compared with 15 two years ago. The whole enrollment of the institution for the year just ended was 308, a substantial increase over the previous year. The general equipment and libraries have been added to regularly to keep up with the demand for increased and better facilies of instruction. All of the professors and assistants in the different departments have been kept fully employed with the regular work of the institution and a large per cent of them have found it necessary to answer outside inquiries for information and prepare papers for the press and public meetings in addition. The work of this institution differs very materially from that of any other educational institution of the territory. Being an Agricultural College with an Experiment Station Department, it is looked to as a bureau of information on all matters pertaining to agriculture in its broadest sense, not only by citizens of the territory but also by those from the outside who have business interests in the territory or who are prospective settlers. This adds much work not only to the office of the executive, but also to the heads of many of the departments, not usually thought ot in connection with an educational institution of the ordinary type.

Within the past two years, an addition to the Girls' Dormitory has been constructed, giving accommodations for thirty additional students and supplying a room for the housekeeper and one for the Department of Music. The accommodations at this Dormitory are now sufficient to meet all demands for the present.

## BOARD OF REGENTS.

The personnel of neither the Board of Regents nor the Faculty of Instruction has been materially changed within the past two years. Regent W. A. Cooper found it necessary to resign a few months ago because of his anticipated removal from the territory. He was succeeded by Mr. J. M. Webster, of Hillsboro. Otherwise the membership of the Board remains exactly the same as two years ago, and is composed as follows: Granville A. Richardson, of Roswell, President, whose term expires in 1905; Herbert B Holt, of Las Cruces, Secretary and Treasurer, whose term expires in 1908; Seaman Field, of Deming, whose term expires in 1906; Jose Lucero, of Las Cruces, whose term expires in 1907; J M. Webster, of Hillsboro, whose term expires in 1909 Ex-Officio members, Miguel A. Otero, Governor, Santa Fe, and Amado Chaves, Superintendent of Public Instruction, Santa Fe.

## FACULTY OF INSTRUCTION.

The few changes that occurred in the Faculty were the result of volunteer resignation. The apparent security of position during satisfactory service accounts partially for the large amount of good work accomplished. The first of April, 1903, Arthur Goss, professor of chemistry, resigned to accept the Directorship of the Indiana Experiment Station, after having completed more than ten years service in connection with this institution. He was succeeded by R. F. Hare, who had been an assistant in the department during very nearly the whole period of Prof. Goss'. Miss Edith Davis resigned the professorship of English July 1. 1903, after two years of successful service, and was succeeded by Dr. John R. Macarthur, of the Chicago University. Charles Mills, who for twelve years had been connected with the department of mechanical engineering, the last two of which he had served as its head, resigned to take effect November 30, 1904. Charles E. Paul, a graduate of the Massachusetts School of Technology and at present assistant professor of mechanical engineering in the State Agricultural College of Kansas, has been selected to succeed him. A few other changes have taken place in the positions of assistants and a second assistant has been added to the department of agriculture, whose work is confined largely to experiment station investigations. On account of the growth of both of the work of instruction and investigation, the department formerly known as that of agriculture and horticulture, has been divided, and horticulture made a separate, independent department in both college and experiment station, with Prof. Fabian Garcia in charge. He had been long connected with the combined department as assistant in horticulture. The position of instructor in vocal music was created by the Board of Regents at its June meeting in 1903, and Miss Nona Murphy, of Hillsboro, was elected to take charge of the work. She entered upon the discharge of the duties of the position the following September and continued her connection with the institution until her death, last October. Recently Miss Maude McFie, a graduate of the college, was chosen to succeed her. The Faculty as now constituted consists of the following members:

Luther Foster, M. S. A., President of the College, Director of the Experiment Station, and Professor of Political Economy; Clarence T. Hagerty, M. S., Professor of Mathematics and Astronomy; Hiram Hadley, A. M., Professor of History and Philosophy; Elmer O. Wooton, A. M., Professor of Biology, in charge of Geology, and Botanist of the Experiment Station; Francis E. Lester, Registrar and Principal of the Department of Stenography and Typewriting; John D. Tinsley Professor of Physics, Soil Physicist and Meteorologist of the Experiment Station; Alice Horning, B. S, Professor of Domestic Science, Dean of Women, and Matron of the Women's Hall; John J. Vernon, M S. A, Professor of Agriculture, Agriculturist of the Experiment Station, and Superintendent of Grounds; D. M. Richards, A. B. Principal of the Preparatory Department; R Frederick Hare, M. S. Professor of Chemistry and Chemist of the Experiment Station; John R. Macarthur, Ph. D., Professor of English; Fabian Garcia, B. S., Professor of Horticulture and Horticulturist of the Experiment Station; Eaton A. Edwards, Lieutenant-Colonel U. S. A., Retired, Professor of Military Science and Tactics; Charles E. Paul, B. S., Professor of Mechanical Engineering and Superintendent of Buildings; Geraldine Combs, Assistant in Preparatory Department; Archie Bruce Sage, B. S., Assistant Professor in Mechanical Engineering; Charlotte A. Baker, Librarian and Assistant in English, Frances E. Blakesley, B. L., Assistant in Preparatory Department; John Oliver Miller, B. S., Assistant Registrar and in the Department of Stenography and Typewriting; Elizabeth E. Shimer, Assistant in the Preparatory Department; Pinckney Ford, Assistant in the Department of Stenography and Typewriting and College Stenographer; John M. Scott, B. S., Assistant in Animal Husbandry; Florence J. Foster, B. S., Assistant in Domestic Science; Frank O. Woodruff, A. M., Assistant in Chemical Department; Amos E. Lovett, B. S., Assistant in Irrigation; Elmer I. Chute, E. E., Assistant in Mechanical Engineering; Martha A. Bennett, Instructor in Instrumental Music; Maggie Mackenzie, Assistant Matron and Housekeeper; Maude E. McFie, B. S., Instructor in Vocal Music.

The failure to secure the appropriation made by the last legislature for buildings resulted in great disadvantage to the institution, making it impossible to relieve the overcrowded conditions, to place the Preparatory Department in more hygienic quarters, or to provide for the proper accommodations of the increased attendance. The college has wholly outgrown its old quarters and can make but little further growth or extension until additional buildings are provided.

## THE LIBRARY.

The college library comprises 9,000 books and 6,000 pamphlets, 1,500 public documents, and 5,000 text books. In addition to these, it subscribes to 96 magazines and several dailies, and receives numerous magazines and papers as gifts. This collection is grouped into general, departmental, territorial, and text book libraries. During the past two years, there has been added by purchase to the first three libraries mentioned above, 1,330 volumes. In addition to these purchases, we have received all of the agricultural publications issued by the government, and all of the bulletins written by the various Experiment Stations. The Honorable B. S. Rodey has most courteously given us the public documents allowed him at Washington, and Mr. Oscar Lohman has presented to us 151 rare documents. Some valuable Philippine curios have also been loaned the library by Mr. W. A. Sutherland.

Among other accessions, the reference section of the general library has been increased by the following complete files of magazines: The Atlantic, the Bookman, Country Life in America, Educational Review, Harper's Montly, Masters in Art, Masters in Music, International Quarterly, Popular Science Montly, and Science, old and new series. We have also bought partial files of the Scientific American and Supplement, and Cassier's. Besides the new magazines, the old files are kept up to date.

The several departments have valuable files of periodicals bearing on their particular work.

Two hundred and thirty-one new volumes have been placed in the Spanish section. Among these is a rare reference set of 71 volumes—Biblioteca de Autores Españoles—and three Spanish periodicals, Blanco y Negro, España Moderna, and Revista Crìtica de Historia y Literatura.

Besides cataloging the new accessories and doing the ordinary routine work, much has been done to bring up the work accummulated before there was a librarian.

The libraries of the Agricultural Department, consisting of 259 volumes, and that of the Engineering Department, consisting of 450 volumes, have been cataloged. The 351 volumes of the Chemical Department have been classified. The Station bulletins in both the Chemical and Agricultural libraries have been made accessible. Five hundred and one volumes of the general library have found their places in the card catalog.

The free text book library, numbering 5,030 volumes, have been cataloged. These books have been carefully selected by the different professors and are lent upon the receipt of a written order from the head of a department. Students often have a personal working library of from 25 to 30 volumes.

Systematic instruction is given in the use of reference books, the card catalog, magazine indexes and other library aids.

In the general library, there has been a noticeable improvement, both as to the quantity and quality of the reading done by the students. Scientific magazines, heavy reviews and art periodicals are read where a few years ago they were scarcely touched. The open shelf system, giving a student an opportunity to touch and see for himself, is proving a liberal education.

## THE COLLEGE PAPER.

The New Mexico Collegian is the name given to the paper published by the Columbian Literary Society. It is a monthly publication devoted to the chronicling of college events and happenings—locally, socially, and of a literary character. The entire management is taken by those students who are members of the C L. S. and the staff is elected at the beginning of each term so that as many students as possible may have the practical experience in journalistic work. It serves as the exponent of the student body. At the end of the year a souvenir commencement number is issued, replete with pictures, local matter, and special articles of interest to the students and their friends. Essays and literary compositions of special value, written by any student in connection with the college work are published by the Collegian, and this fact tends to make the students strive to do good work. The paper is neatly gotten up, compares favorably with similar publications of other colleges and is a credit to the society which assumes its management as well as to its editorial staff.

## LITERARY SOCIETIES.

Up to within the past two years, only two literary societies existed in connection with the institution, the Columbian, whose object is to encourage literary and musical work, and the Liceo Cervantes which was organized specially for students interested in the study of Spanish. The two societies did not offer opportunity for all students interested to take part nor was the grade of work suited to all. In consequence, within the past two years three additional societies have been organized, the Lincoln, whose grade of work is suited to the students of the preparatory department, the principal and teachers of the department acting as advisory members; the Minerva, the scope of whose work is very similar to that of the Columbian, and the Stenographers' Association, composed of students of that department and whose programs are of special interest to stenographers. A dramatic club has been formed under the auspices of the English department for the purpose of training students in vocal expressions and arranging for lectures. For the present these will be devoted to art and travel

## EXHIBITS

The different heads of departments with their assistants prepared a very creditable exhibit of students' work, farm products and results and processes of investigations, for the Louisiana Purchase Exposition, at St. Louis. They also prepared a very entertaining and instructive exhibit for our Territorial Fair, at Albuquerque, October, 1903. Besides the above, some of the departments of the institution contributed special lines of work done by students or resulting from Experiment Station investigations, to the Agricultural College and Experiment Station Exhibit of the United States, which is in charge of the Association of American Agricultural Colleges and Experiment Stations. The Engineering Department was awarded a prize on its drawing and shop practice exhibit.

## ATHLETICS.

Athletics have always been a prominent feature in the student life of this institution. The association was organized in 1893 and from that time to the present its growth has been steady and sound. The efficiency of the association is shown in its work, All but one of the territorial track athletic records are held by this college. An Inter-Collegiate Athletic Association was formed in 1902 which is already bearing fruit. The first meet under its direction was held here in June, 1902—this school carrying off the honors. A second was held in Albuquerque in May, 1903, and a third in 1904, again at Mesilla Park, this institution being victorious in both. Much is expected of athletics in the future as the association is on a firmer footing than ever in its history. The new constitution recently adopted to meet the changed conditions puts the association on a firmer and surer standing.

The College Campus is probably the best in the territory; it is excellently situated and equipped with good fields for foot ball, base ball, tennis courts, a quarter mile track and a 220 straightaway, etc. The various teams that represent the College under the direction of the association are among the strongest of the territory. The past year the football team was scored upon but once; the basket ball teams holds the territorial championship having won every game except one played; the prospects for a winning base ball team was never better, and we undoubtedly have the best track men in this section of the southwest.

A member of the association has access to foot ball and base ball suits, tennis courts and balls, the usual outfit for fields sports, and shower bath on the grounds.

### GRADUATES. 1903–1904.

The senior classes for the past two years were composed of the following members, all of whom completed one of the regular four years' courses: Orrick B. Metcalfe, Fannie Ford, Maude McFie, Ina Nelson, Clarence D. Case, Thora Lute Foster, Mrs. Orpha Hoblit, L. W. Case, Pearl Miller, and Rowena Mott. Six were graduated from the general course, two from the domestic science course, one from the agricultural and one from the engineering course. As just recognition of the work accomplished, the Board of Regents conferred on each of these graduates the degree of Bachelor of Science. It also conferred upon Mr. Orrick B. Metcalfe the degree of Master of Science, he having completed the required one year's graduate study in the Department of Biology. The Master of Science degree was also conferred upon Mr. J. S. Macgregor for special investigations in the strength of New Mexico building materials made in connection with his two years' service as an assistant in the Engineering Department.

The work of graduating classes as well as that of the post-graduates, was marked by the unusual thoroughness of the investigation and the care shown in the preparation of the theses. Their subjects were as follows:

| | |
|---|---|
| Rocks and Minerals of the Organ Mountain Region | Ina N. Nelson |
| Birds of New Mexico . . ... | Fannie Ford |
| Flora of the Mesilla Valley . | Orrick B Metcalfe |
| History of the Mesilla Valley .. . . . . | Maude E McFie |
| Irrigation ... .. .. .... ... .. | C. D Case |
| A Sewage System for the Dormitory . . . .. | L. W. Case |
| The Folk-Lore of New Mexico .. ... . ... ... .. | Thora Lute Foster |
| Un Tipo Singular.... ... .. .. .. .... ... . . | Orpha B Hoblit |
| Mexican Cookery... . . . . . .... ...... | Pearl C. Miller |
| The Study of the American Magazines .... .... | Rowena Mott |
| Private Investigations in the Larrea .. . | Orrick B. Metcalfe |
| Tests of Some New Mexico Building Materials.... | J. S. Macgregor |

The theses on the strength of New Mexico building materials is considered of so much importance to the contractors and builders of the territory that it has been decided to arrange it in such a form as seems more convenient for practical use, and have it published as a bulletin of the Engineering Department of the college.

### THE EXPERIMENT STATION.

The work of the Experiment Station during the past two years is shown in its bulletins and annual reports. While it included a wide range of investigations, the principal effort was confined to those lines of work of more immediate benefit to the farming interests of the territory. Irrigation continues to be an all important subject and the station has devoted a large share of its time and money toward developing a water supply for irrigation from under ground sources. The stations force of specialists, working at the various problems arising in the development of New Mexico, are securing results of great value to its agricultural interests.

The following is a list of the publication distributed within the two years. The Thirteenth and Fourteenth Annual Reports, by the director; Bulletin No. 44, Ash Analysis of Some New Mexico Plants, by Arthur Goss; Bulletin No. 45, Pumping for irrigation from Wells, by J. J. Vernon and Francis E. Lester; Bulletin No. 46, Soil Moisture Investigations for the Seasons of 1901 and 1902, by J. J. Vernon and J. D.

Tinsley; Bulletin No. 47, Shade Trees and Other Ornamentals, by Fabian Garcia; Bulletin No 48, Soil Moisture Investigations for the Season of 1903, by J. D. Tinsley and J. J. Vernon; Bulletin No. 49, Canaigre, by R. F. Hare; Bulletin No. 50, Steer and Lamb Feeding, by J. J. Vernon; Bulletin No. 51, Native Ornamental Plants of New Mexico, by E O. Wooton.

### PRESS BULLETINS.

Foreign Early Grapes (English and Spanish), by Fabian Garcia; The Development of Water from the Underflow by Pumping, by J. J. Vernon; Regarding Bulletins 42 and 43, by J. D. Tinsley; Pumping for Irrigation; Second Test, Irrigating Alfalfa, by J. J. Vernon; Onion Culture (English and Spanish), Part I, by Fabian Garcia: The Commoner Poisonous Plants of New Mexico, by E. O. Wooten; A Tomato Disease (English and Spanish), by Fabian Garcia; The Angora Goat in New Mexico, by J. J. Vernon; Onion Culture (English and Spanish), Part II, by Fabian Garcia; A New Book for the Farmer, by J J. Vernon; Pumping for Irrigation: Development of the Underflow. The Experiment Station Well, J. J. Vernon; Pumping for Irrigation. Relative Conditions in the Rio Grande Valley, by Francis E Lester; Pumping for Irrigation. Development of the Underflow. Pump Test, by J. J. Vernon; Signs of an Overstocked Range, by E. O. Wooton; Shade Trees and Other Ornamentals, by Fabian Garcia; Bee-Keeping, by H. C. McLallen; Fertilizers for the Rio Grande Valley, by R. F. Hare; Amounts of Moisture in the Soil of the Station Farm, under different amounts of Irrigation and Cultivation, by J. D. Tinsley; Windbreaks and Shelterbreaks, by E. O. Wooton; The Grape Root Gall, by Fabian Garcia; Sinking a Well for Irrigation purposes at Albuquerque, by J. J. Vernon; Preliminary Irish Potato Test, by Fabian Garcia; Testing Cows for Tuberculosis, by H. C. McLallen; Baking Powders, by R. F. Hare; Formulas for Preserving Fruits in Liquids, by Fabian Garcia; La Chinche de la Calabaza, by Fabian Garcia; Regarding Bulletin 51, by E. O. Wooton; Irrigation Problems, by J. J. Vernon; Pumping for Irrigation, Relative Value of Fuels, by J. J. Vernon.

The following statements concerning the work, progress and present conditions in the different departments were furnished by the different professors in charge of them:

### AGRICULTURE.

The Department of Agriculture has made considerable progress in the past two years even when many obstacles interposed. Future progress will depend very largely upon relief through the supply of class rooms, laboratories, and facilities and equipment for instruction purposes along lines that are of the most vital importance to over 40 per cent of the producing population of the Territory; namely, those engaged in agricultural pursuits. The existence of the commonwealth is dependent upon agriculture and its products, and, therefore, that industry, it would seem, should be fostered at all hazards. A liberal education, so balanced as to fit men for a particular calling, is today considered the best method of elevating that calling and increasing its usefulness to mankind. As the population increases production must increase. The time is now at hand when science, not guess work must control agricultural production. Better trained minds must be brought to bear upon the manifold problems involved in the question of increasing production and the agricultural college is designed to supply the demand for such an education.

The course of study in agriculture in this college includes not only those subjects that deal directly with agriculture in its various phases, but also a large number of other sciences closely related. Several subjects are provided for that are purely cultural in their nature. The following subjects are taught in the Department of Agriculture:

I —Agronomy, or Plant Culture.
  1. Elementary principles of agriculture.
  2. Soils and field crops.
  3. Rural engineering.
  4. Practical agriculture.
  5. Electives.

II.—Zootechny, or Animal Husbandry.
  1. Breeds of live stock.
  2. Principles and practice of judging live stock.
  3. Principles of breeding.

4. Stock feeding.
5. Dairying.
6. Electives.

Without taking space to discuss all of these subjects, the following will illustrate the instruction given:

1. Soils and Field Crops. This subject includes instruction in the more simple problems dealing with the preparation of the soil, selection of seed, germination, cultivation, harvesting, storing and marking, as well as the more complex problems involving plant activities and soil fertility. This latter point may be expanded more fully: Through ages of time weathering has caused rocks to break into small particles, and these particles when they have become mixed with a proper amount of decayed vegetable matter form soil. But the plant food in these soils is not yet available to the plants because they are not soluble in water. Food from the soil is carried into the plant dissolved in water. Chemical changes must take place in order to form compounds that are soluble in water. Bacterial agencies must be permitted to work upon these inert forms of food if we would have them changed into forms suitable to the needs of the plant. These beneficial changes in the character of the soil particles take place most rapidly when the soil has been provided with the proper amount of humus (decayed vegetable matter), air, light, heat and moisture. The instruction includes the topics mentioned and many other valuable subjects. The students are taught not only the "how" but the "why" also of every operation pertaining to plant growth—matters of the most vital importance to those who are engaged in agricultural pursuits.

2. Principles of breeding. The instruction in this branch includes the laws governing the breeding of animals: the principles involved in the improvement of range stock, the best means of meeting market demands, etc. A knowledge of the fundamental laws of breeding, when applied to the improvement of range stock, would render results more definite. This line of work appeals strongly to the young cattle grower and ranchman.

## EQUIPMENT.

The equipment for instruction purposes, except in machinery and live stock, is inadequate to the needs of the department, but on the other hand, such equipment would be almost valueless without facilities for its proper use.

## STUDENTS.

The number of students who have received instruction in the different branches taught in the agricultural course during the past two years is given below. For the purpose of comparison, preceding years are also given:

| Year | Number taking regular course. | Number taking full course. | Number taking special studies | Total |
|---|---|---|---|---|
| 1900-1 | 0 | 0 | 0 | 0 |
| 1901-2 | 1 | 4 | 0 | 4 |
| 1902-3 | 3 | 6 | 15 | 21 |
| 1903-4 | 7 | 9 | 22 | 31 |
| 1904-5 | 11 | 14 | 20 | 34 |

## NEEDS

The following needs are the most pressing:

1. Class room and laboratory rooms. Classes are now held wherever, through the courtesy of the professors of other departments, a place can be found. This is the most urgent need of the department at the present time.

2. Increase in the force of instructors. Two men do all the teaching work of the department and their time is about equally divided between station and college work. Therefore, we have the equivalent of one instructor.

3. Additional land. The present available land is not well suited to some lines of experimental work and it is insufficient to provide pasture and forage for stock.

4. A residence building for the foreman. The need for such is apparent when the scarcity of buildings for rent in the vicinity of the college is known.

5. A creamery and dairy building. This is not a pressing need but it is one that will later have to be provided.

In closing a few words may be said regarding the relation of the Agricultural College to the farmer: The Agricultural College is the farmer's college. By legislative enactment these colleges have been provided for so that the farmer's children may secure an education along the lines that will best fit them for their intended calling. Instruction in the languages, literature, physics and mechanics, is obtainable in almost every college or university of any great pretension. Agriculture is not taught in these institutions, and, therefore, the agricultural college is the farmer's only hope for such instruction for his children.

People are coming to believe that young men and young women who will, in the future, produce materials for the supply of food, clothing and shelter, for the world's consumption, should be educated for their work. They should be given an education that will fit them for their particular calling much as the doctor or lawyer is fitted for his work by a special line of study. An education is offered to these young men and women only in the agricultural colleges of the country and it is believed by many able writers that the courses which include such instruction should be considered of prime importance in these colleges.

## HORTICULTURE.

The department has made marked progress during the past year. Since a good training in this line of work is of great importance, especially to those who are to follow horticulture as a vocation, the work of this department is being more and more recognized and appreciated, not only by the institution and students, but by the public as well.

With the exception of a few minor changes, the course of study in horticulture is the same as it was last year. Floriculture, greenhouse management and construction, greenhouse handicraft, nursery work, plant breeding, pomology, forestry, olericulture, landscape gardening, horticulture and economic entomology, are the subjects taught. There have been a larger number of students in the various classes this year than during previous years, In floriculture there were four young women students. This is a course designed to be popular and practical in nature and the principles on which successful floriculture is based are taught. This course is specially for young women students.

Nine students are registered in the classes of greenhouse management and handicraft. In this course the student in the principles underlying the construction as well as the management of greenhouses, hot-beds and cold frames.

In the nursery work, nursery management is made a strong feature and the student is familiarized with nurserymen's methods. Only three students entered this class last spring.

In the course of elementary horticulture, where only the elementary principles are taught, there were fifteen students.

Four students registered in the pomology course. This work includes all subjects relating to fruit-growing as well as the classification and judging of varieties. In plant breeding, which takes up such subjects as the evolution of cultivated plants, bud and seed variation and crossing, three students have enrolled.

Last year there were five students in olericulture. This work takes up the subject of vegetable growing. Planting, transplanting, cultivation, packing, etc., are some of the topics discussed. In the forestry course, which is treated mostly from the horticulturists point of view, two students were registered.

During the fall term, three students were enrolled in economic entomology. This course is designed to give the student a fair knowledge of the principal groups of insects of economic importance.

The orchard, comprising many varieties of apples, peaches, pears, plums, apricots, cherries and quinces, is available for the study of such topics as kinds and varieties of fruits adapted to this section; how to pick, grade, pack and ship fruit, and general orchard management. The vineyards are ample for the illustration of viticultural subjects. A small nursery is maintained partially for instruction purposes. The nursery and orchard afford opportunity for practical lessons in pruning, grafting, budding, topworking, methods of propogating, and general nursery management. The vegetable gardens, hot-beds and cold frames, are handled with a view to the study of commercial vegetable growing, special attention being given to winter vegetables and hardy flowers.

The greenhouse is an important factor in the various phases of plant life. It is particularly serviceable in illustrating methods of propogation and for growing plants and flowers for bedding purposes and ornamentation.

The arboretum, forestry plantations, shelter belts, public grounds, and lawns are serviceable for illustrating the study of forestry, shelter belts, landscape gardening, and methods and means of beatifying home surroundings.

The department has a fair equipment in spraying apparatus. A knap-sack, barrel force pump, Kero-water sprayer, and a Wallace power sprayer are included in this equipment. The students get practical instruction in the use of these machines, and in the preparation of fungicides and of the insecticides for both sucking and chewing insects.

The department has a good collection of books and periodicals on horticultural subjects and the students are at liberty to use them at any time.

While the equipment is quite thoroughly complete for instruction in horticulture, the department has no class or laboratory rooms. The professor has had to borrow class rooms for other departments in order to conduct his classes. This year, due tothe larger number of students in the classes, it has been found impossible to carry on some of the laboratory work satisfactorily on account of not having any suitable laboratory room.

The professor in charge finds thatit has become necessary, on account of the large amount of station and instruction work, to have an assistant so that both lines of work may be kept up to the standard.

## BIOLOGY AND GEOLOGY.

The appended tabulated list of classes shows the kind and amount of teaching work being done, as well as the number of students of the various college classes which are receiving instruction in this department.

| Class | Term | 1902-3 | 1903-4 | 1904-5 |
|---|---|---|---|---|
| Sen. Prep. Botany | Third | 8 | 19 | . |
| Fresh. Biology | First | .. | 4 | 17 |
| " " | Second | 7 | 3 | . |
| " " | Third | 8 | 5 | .. |
| Soph, Bacteriology | Third | 7 | 6 | .. |
| Jun. Human Physiology | Third | 2 | 3 | .. |
| Junior Plant Physiology | Third | .. | 3 | .. |
| Senior Geology | Second | 7 | 9 | .. |
| " " | Third | 6 | 4 | .. |
| Advanced Botany | First | .. | 1 | .. |

| Class | Term | 1902-3 | 1903-4 | 1904-5 |
|---|---|---|---|---|
| " " | Second | 1 | 1 | .. |
| " " | Third | 1 | 1 | .. |
| Advanced Zoology | Second | 1 | . | .. |
| " " | Third | 1 | .. | .. |
| Thesis | Third | 2 | .. | .. |
| Forestry | Three terms | .. | 1 | .. |

The work of the department is performed by the head and a single student assistant, only a part of time of the latter being available. All of the teaching is done by the head of the department except a single class for one term. Classes in all the years of the collegiate courses are taught and elective graduate and undergraduate work is offered.

In the year 1902-03 two seniors decided to do this work in this department, and, as a result of their efforts, these on "The Plant Zones of the Mesilla Valley" and "The Birds of New Mexico" were produced.

This department occupies (nominally) four rooms on the second floor of the science hall. One of these, the biological laboratory, is used exclusively for teaching work. It is equipped with laboratory tables, water, zinc and gas, and can accommodate conveniently twelve students. It also contains the equipment of microscopes (14) and microtomes (2) as well as all the other biological apparatus necessary and all the zoological and physiological material, casts, charts, skeletons, etc. By very serious crowding it has been made to hold classes of seventeen and nineteen students, though the available light is entirely insuficient, for so many students working at once.

A second room is used as an herbarium and is entirely occupied by the botanical collections. The available space in this room is now practically all occupied and the cases are running over.

A small hall room (about 8x14 ft.) is used as an office and departmental library, the later containing about 450 books and numerous periodicals and pamphlets.

The fourth room contains a number of wall cases in which are stored specimens of fossils, casts, rocks, birds, bird-nests and insects which belong to the department. This room is being used by the department of English for its teaching work, there being no other room available. Thus, while the room nominally belongs to the department of biology and geology, it is little more than a particularly inconvenient store room.

It has been necessary to store some of the material of this department in the attic of the science hall. This is naturally not in a shape to be usable by students, and is also liable to be destroyed by mice.

During the past two years considerable work has been done on the herbarium. It now contains 8,894 mounted specimens of the flowering plants, most of which have been collected in the territory. There are from 1,500 to 2,000 specimens of fugi in the collection awaiting attention. The private collection of the head of the department, containing about 5,000 specimens, a number of which are co-types, is also in the herbarium room and available to students of New Mexican botany. Probably 1,000 specimens are now waiting to be mounted. Exchanges are continually being made and a small amount of money is set aside each year for the purchase of collections of plants from the territory. It is our intention to make this herbarium as complete a collection of the typical plants of New Mexico as we possibly can.

Considerable additions (over 100 skins) were made to the collection of New Mexico birds and nest, in 1902-03 by one of the students in advanced zoology.

A number of casts, photographs and fossils were added to the equipment for teaching geology in 1903, but this material is sadly in need of more room in which it may be displayed to advantage and increased usefulness.

The class in freshman biology was so large this past term that it was necessary to purchase more microscopes for their use. It is possible to accommodate the classes in plant physiology in a very poor way only. We have no physiological laboratory and no room suitable for their work. This class needs a separate laboratory with a small greenhouse attached. The greenhouse of the horticultural department is too far away to be available for this work. The work in bacteriology is necessarily limited to a lecture and demonstration course because there is no place to give any other kind of work.

An exhibit of New Mexican birds and plants (mostly grasses), together with a set of photographs of the laboratories and some of the apparatus of the department, was sent to the St. Louis World's Fair.

The report of the botanist of the Experimental Station will be found in another place, but it may be well to mention here that the work being carried on by this department includes investigations along the following lines.

1. The Range problem—distribution, improvement, control, etc.

2. Studies in the native forage plants—grasses. shrubs, cacti, etc.

3. Studies in the growth of native ornamental plants.

4. The distribution of our forest resources, etc.

During the summer of 1904, the botanist, working in co-operation with the Division of Agrostology, U. S. D. A., made an extended trip over the territory, overland, examining the ranges and taking notes upon the natural distribution of the available forage plants and the present condition of the ranges. This line of work has been carried on for a number of years and a bulletin is now being prepared on the subject. This past year a bulletin was published upon the "Native Ornamental Plants of New Mexico"

Summarizing the needs of this department, it is hardly necessary to say we need more room. We need, and need badly, a good sized room to be used as a museum. There is material enough now stored in this department to form the beginnings of a relatively large museum—a thing much needed in the institution. We need more room for the herbarium. We need a larger biological laboratory, with a small greenhouse attached. We need at least as much additional room as this to accommodate the students and material which we now have. It would be unwise to fail to take legitimate growth into consideration. A skilled assistant, whose whole time is at the command of the department, is also a very important desideratum.

### PHYSICS AND SOIL PHYSICS.

The regular sophomore class in physics, consisting of seven students, recited six periods per week in the winter and spring terms of 1903. For the three terms of the session of 1903-04 the class consisted of twelve students who recited six periods per week. In the fall term of 1904 were seven students who met for six periods per week.

Previous to this term, the metod of instruction had been that of recitations illustrated by experiments performed by the instructor. Beginning with this term about half of the time is spent by the students in performing experiments, of which they are required to keep accurate records, and the remainder of the time is devoted to recitations and lectures. This method is proving quite satisfactory. In addition to the sophomore class, there were two students in the fall term of 1904 who availed themselves of the courses offered in advanced physics.

The regular course in soil physics for junior agricultural students was given to a class of four in 1903 and of two in 1904 for ten laboratory periods per week during the spring terms.

There were two students doing advanced work in soil physics throughout the session of 1903-4. One of them expects to become a specialist in this line of work. The other expects to specialize along botanical lines but took this as his major subject for the M. S. degree and wrote his thesis on a problem in the relations of native vegetation to the character of the soil on which it grew.

The regular course in meterology was given to a class of four agricultural juniors in the fall term of 1903, and a class of one in the fall term of 1904.

The laboratories of soils and physics occupy the same three rooms as heretofore. These rooms would afford sufficient space for the present needs of the department were it not that the physical laboratory has to be shared with the military department which is a source of much inconvenience.

The principal additions to the equipment of the physical laboratory in the past two years have been pieces of apparatus for the desk work of the students such as rules, calipers, materials to be measured, inertia balance, pulleys, inclined plane and wave trough.

The soil physics laboratory is very well equipped with the necessary apparatus for carrying on investigations on various properties of soils.

A fine stereopticon with acetylene and arc lights and a camera fitted with Zeiss lenses have been recently purchased for general use in the institution and are in charge of this department.

## CHEMISTRY.

Since January, 1903, the force in the chemical department has been engaged in two separate and distinct lines of work, viz:

1. The teaching of chemistry, mineralogy, metallurgy and assaying in the college.
2 The study of range problems relating to agriculture in the experiment station.

In the college, elementary chemistry has been taught for one term each year to the sub-freshman class, and during the whole college year the junior class and the special classes in assaying have been thoroughly drilled, both by laboratory practice and lectures with class room demonstrations, in the principles of general chemistry and qualitative analysis. The seniors in the agricultural course have been taught the relations of chemistry to agriculture. They have learned in the class room the composition of soils, and fertilizers, irrigating waters, foods and feeding stuffs, plants, animals and other substances of interest to the farmer, and later in the laboratory have made analyses to determine the amounts contained in samples of their own selection.

Mineralogy has been taught for ten hours per week to all seniors (except agricultural seniors) and assay students during the first term of each year. For this purpose there is a large, well equipped laboratory and over 500 mineral specimens, the majority of which represent the typical minerals of this territory, but among them may be found specimens of all the commonly occurring and many of the very rare minerals. Two sets of celluloid and plaster of paris crystal models, a latest improved Jolly spiral balance, and all the other apparatus as well as chemicals necessary for students in determinative mineralogy to do good work are supplied to this laboratory.

An elementary course in metallurgy has been given to seniors in mechanical engineering and to students in assaying. This course is nessearily a very elementary one, on account of the time devoted to it, but the students are given some idea of the extraction of the different metals from their ores and their preparation for the arts.

Special one and two year courses are offered in assaying in which the students have been expected to devote a minimum time of six hours per week during the entire year, but there are few students but what devote more than the required time to this as well as other lines of chemical work, since it has been our custom to keep the laboratories opened from 9 a. m. to 5 p. m., so that they may be at the disposal of the students at all hours of the day.

In addition to the teaching which has been done in all the required courses mentioned above, there has been some demand for work in advance chemistry. As a consequence, for the past two years we have carried classes in organic chemistry and other lines of advanced work. This demand for advanced work has been brought about by the steadily growing demand for chemists in the government service, and the various industrial pursuits.

The number of students in all chemistry classes is still much smaller than it should be, but it gradually increases from year to year as the people of the territory learn of the splendid equipment and advantages offered their children by the institution.

The department library contains 351 volumes, valued at $1,420.00 while the total equipment of the department cost not less than $9,000.00.

During the time covered by this report, two bulletins have been published by the department, one by Arthur Goss on "The Ash Analysis of Some New Mexico Plants" and one by R. F. Hare on "Canaigre." In addition to these, two press bulletins have been issued on "Fertilizers for the Rio Grande Valley" and "Baking Powders."

During the past year 54 more analyses have been made than in any preceding year since the establishment of the station. Analyses were made of ores, but guanos, soils, waters to be used in irrigation, and miscellaneous substances, chiefly those relating to agriculture.

Since taking charge of the department July 1. 1903, the position of assistant chemist has been occupied by three different men, and the third man has just resigned to accept a better position in the Bureau of Chemistry, at Washington. This position is one that should be filled only by a skilled analyst. and frequent changes such as we have been having recently are sure to cripple the department. It is hoped that if a good man can be secured to fill the present vacancy, the institution will hold out sufficient inducements in the way of a liberal salary to retain him for a sufficient length of time for him to be of service to the department.

## DOMESTIC SCIENCE.

During the years 1903 and 1904 sixty-six pupils have been enrolled in the classes in cooking, while the sewing classes contained a still greater number. At least eight students have matriculated with the specified purpose of taking only the Domestic Science course.

Classes taught during the two years were. Sub freshman, plain cooking and sewing; Sophomore, cooking and sewing (undergarments, shirt waists, etc.); Junior, advanced and invalid cookery, canning and preserving; Senior, dietetics, home sanitation, chemistry of cooking and cleaning, and chafing dish cookery, cutting, fitting and dressmaking. Fancy work and embroidery have also been taught in the sewing department.

Since the establishment of the department of domestic science, a majority of the women students elect the course, and its future looks promising.

The dormitory had an additional wing built on during the year, doubling its capacity. It is comfortably furnished with good oak furniture and has all modern conveniences except electric lights and a heating plant, both of which are imperatively needed. It is supplied with a music room and two pianos which conduce to the convenience of the musical department. The building will now accommodate about fifty girls and it is hoped that another year may see it filled to overflowing. Since the enlargement of the building, it has been found necessary to install an assistant and housekeeper.

## ENGLISH

The active duties of the head of this department began in September of 1903. Upon his arrival he found it advisable for the first year to adhere, for the most part, to the courses of study already outlined. For the present year, however, some radical changes have been made in the plans of work.

The course in English of the Sub-freshman year has been modified so as to enable the students, as far as possible, to conform in their studies to the requirements for college entrance in English laid down by the National Educational Association of America. This is an important step in raising the standard of English in this institution. So far the results are most encouraging. This class meets four periods a week throughout the year.

The students of the Freshman year receive a thorough training in the principles of Rhetoric and of English Composition. They are taught by Professor Hadley and meet him during five periods of the week throughout the year. The present class is an extremely large one and is making most gratifying progress.

Sophomore English, which also meets five times a week throughout the year, aim to give the students of that year a general knowledge of the history of English Literature accompanied by extensive reading in that literature.

The work of the Junior year, which is conducted by Miss Baker, the librarian of the college, is one of the most important contributions to the course in English. In it the students are taught to use the library and its books of reference, and to obtain a practical knowledge of the principles of bibliography. Both of those items are bound to contribute largely to their scholastic advancement.

The course in Senior English, consists of work in advanced rhetoric. Commercial English, which is offered in the fall and winter terms, aims at giving the students of the department of Stenography and Typewriting a drill in the fundamental principles of English and practice in the writing of business letters and other forms of business English.

This year there has been added to the work an elective course in Technical English, designed to meet the needs of students who wish further training than that offered in the required courses.

The work of the Seminary, which was continued throughout last year, and which concerned itself with the presentation of artistic, musical and dramatic programs, has this year been discontinued and in its stead a student dramatic club has been formed as an adjunct to the department. This furnishes students with an opportunity to cultivate their powers of expression and public speaking. We hope, also, during the present year to give some lectures on art and other subjects, to be illustrated by the large stereopticon which the college has recently secured.

The excellent library facilities enable the work in English to advance in a most satisfactory manner. It is a matter of regret, however, that the department has at present no home of its own. It owes its present room to the courtesy of the department of biology. This fact hinders development along certain aesthetic lines which might contribute much to the advancement of the work.

### HISTORY AND PHYLOSOPHY.

At the close of the present year, there is little to add to what was reported two years ago, except the general statement of uniform and satisfactory advance along all lines. The classes have been larger, stronger and more mature, and have manifested a deeper and purer interest in education. In addition to the subjects that strictly belong to this department, its head has had charge of the Freshman class in composition and rhetoric, and the subject of commercial arithmetic and book-keeping. The class in English has been large, entailing a great deal of labor in properly handling it, but, with very little exception, the members of the class have taken commendable interest in their work. They seem to value the inestimable power a good, practical knowledge of English confers upon its possessor.

The class in commercial work is twice as large as it was last year and its members are better prepared for their work. It is a common but erroneous idea that any one, with even a very limited preparation, can learn book-keeping. The desire of the poorly prepared to add this highly important branch to their practical equipment, on the one hand, and on the other the willingness of teachers and faculty to accommodate, when possible, leads to disappointment in some cases. The department is in great need of room and furniture for its accommodation. At present, most of the work is done in open halls without heating conveniences. With proper equipment in all needed ways, this department can be made a valuable one.

The same limitation of funds necessary for the department of History and Philosophy as mentioned in the last report. continue to exist, yet it is fairly furnished with maps, charts. and reference books. The students in all classes seem to enjoy and appreciate their work.

### MATHEMATICS AND ASTRONOMY.

As the school year is divided into three terms of three months each, some of the classes are taught for one term only, followed by another one term subject. All of the classes recite daily, except astronomy the winter and spring terms. All Senor preparatory students are required to attend the algebra class throughout the year, completing Milne's Academic Algebra. This is their second year's work as they complete Milne's Elementary Algebra in the Junior Preparatory year. The members enrolled increased from 20 in 1902-3 to 27 in 1903-4.

The class in plane and solid geometry is also taught throughout the year to all freshman students. There was an increased enrollment in this class from 15 in 1902-3 to 26 in 1903-4.

Trigonometry, surveying and higher algebra, each one term, constitutes the work for the sophomores, but surveying and higher algebra are not required of all students. In 1902-3, 12 were enrolled in trigonometry. 7 in surveying, and 2 in higher algebra, while in 1903-4 13 were enrolled in trigonometry, 11 in surveying and 5 in higher algebra.

Junior mechanical engineers are required to attend the class in analytic geometry one term and class in caculus two terms. The subjects are elective for other students. The number enrolled in 1902-3 was 2, and in 1903-4, there were seven.

The members of the astronomy class meet five times a week during the fall term for lecture and recitation and one evening each week for observation. In the winter and spring term they met once a week for recitation or lecture and one evening each week for observation. This subject is not required to be taken by all juniors. There were four members enrolled during each of the last two years.

The department is fairly well equipped for work in surveying as well as mathematics and astronomy. It has a portable equatorial telescope with 4½ inch objective and magnifying powers ranging from 50 to 400, planetarium, star lantern with slices, star atlasses, a stero-binocular 1½ power, and planisphere; a 24 inch slated globe, trigonometer and Kennedy's dissected geometrical blocks; a surveyor's compass, two transits, one of which has a gradienter and both have solar attachments; engineer's level, plane table, protractors, aneroid barometer, optical square, planimeter, pantograph, hand level, and clinometerm slide rules, chains, tapes, leveling rods, poles, pins, etc.

### MECHANICAL ENGINEERING.

The following table will show the number of students in the classes of the department at the present time as compared with a year ago:

| | 1903 | 1904 |
|---|---|---|
| Junior, Strength of Materials | 2 | 5 |
| Soph., Descriptive Geometry | 5 | 9 |
| Senior, Hydraulics | .. | 2 |
| Soph., Mechanical Drawing | 7 | 5 |
| Sub-Fresh., Freehand Drawing | 13 | 16 |
| Freshman, Forging | 12 | 12 |
| Sub-Fresh., Carpentry | 14 | 15 |
| Special, Machine Work | 4 | 3 |
| Total | 57 | 67 |

Several substantial additions have been made to the department in the last two years, including the following:

1 14 inch Shaper, Machine Room Equipment
1 12 inch Lathe, " " "
1 Power Hack Saw, Machine Room Equipment
1 Dean Steam Pump, in section, presented by the Dean Steam Pump Co., of Holyoke, Mass.

There is being written, by a student of this department, a thesis on "The Calorific Power of the Fuels of New Mexico."

Last year a bulletin was written on the "The Strength of the Building Material of New Mexico."

Two complete exhibits were gotten up for the World's Fair at St. Louis, one for the Land Grant College exhibit and the other for the New Mexico educational exhibit.

The classes are all full, and needing a greater number of text books than ever before, also an increased equipment in the shops; more benches and tools in the wood shop and additional equipment in the machine shop.

The department has kept up all general repairs about the college, has supervised the construction of the addition to the girls' dormitory, also wiring the building and putting in the sewage system. The department has made a healthy growth, as shown by the greater number of students, particularly in the advanced classes.

### SPANISH AND LATIN.

In this department, the work of the past two years has been marked by progress and improvement. Professor Hoblit has had charge of the classes in both Spanish and Latin. Text books have been changed to bring the courses into harmony with modern advanced methods of instruction.

In Spanish a general course of two years is offered, while a third course is designed especially for students who are preparing for commercial pursuits. The instruction in all classes is made practical, the conversational method being used, so far as possible, in the class room.

In addition to the classes in Spanish taught at the college, several courses are now offered by correspondence, and during the past year and a half these have been taken by students in Alabama, Colorado, Minnesota, and New York.

In Latin two years'work is offered, attention being called to the principles of derivation and word-formation.

The library of the college has been enriched by a large number of Spanish books, including Rivadeneyra's Biblioteca de Autores, histories of Spanish Literature, works upon literary criticism, and representative works of Spanish poets and novelists.

### MILITARY SCIENCE AND TACTICS

The Military Department was established in the winter of 1902, Col. A. S. Frost, Major U. S. A., Retired, being the first military instructor. After a period of drilling and examinations, the Corps of Cadets was organized March 12, 1903, into a battalion of two companies and a band—fife and drum corps. During the school year ending June, 1903, over a hundred and thirty students received such military instruction as could be imparted without arms. At the opening of the college in September, 1903, a partial supply of arms had been received and a full supply came to hand the second term. In his reports to War Department, the military instructor states that the cadets exhibited great interest in and aptitude for the military exercises and instruction, that discipline, at first lax, continued steadily to improve, and that he was heartily supported in his efforts by the president and the faculty of the college.

The present military instructor began his duties with the present school year and the course of theoretical and practical instruction prescribed by the War Department has been carried out, requiring an average of four hours a week for the students. From the observation and study of the periodical reports of the present instructor, it is to be seen that the military department has been of great benefit to the enrolled students individually in developing them physically, improving their carriage and bearing, and that the training due to the requirements of military discipline in the cadets corps has been of service, not only to the individual, but has helped to raise the tone of the student body generally. The interest shown by the students in the military course during the present year has been very marked,, about one hundred and twenty have so far received military instruction, a large proportion have provided themselves with the prescribed uniform, the battalion as a whole presents a very creditable appearance, and shown much improvement over last year.

It is also gratifying to testify to the cordial support given by the president and the faculty in the efforts of the military instructor to establish and maintain a high standard of discipline based on honor.

The greatest drawback to the continued healthy growth of the military department is the lack of an armory, or proper accommodations for use as headquarters of the corps, for the care and store of its equipment and material and the affording facilities for the instruction and entertainment of the cadets. It is hoped that this pressing need may soon be supplied.

## STENOGRAPHY AND TYPEWRITING.

During the past two years the work in this department has been strengthened in several ways. Additions have been made to the equipment by the purchase of several new typewriters of at least two makes and in other ways. The department offers two full courses of nine months each, one in English stenography, the other in advanced English and Spanish stenography. In the last year the work provided in the course in office practice has been strengthened by the introduction of new methods and additional lines of work.

In the period covered by this report the enrollment in the department of stenography and typewriting has steadily increased. Last year the total enrollment was much the largest in the history of the department. This enrollment comprised sixteen men and fifteen women. The students were drawn from eight different states, a fact which is indicative of the widespread interest taken in the work that this department offers in training students in both English and Spanish. With one exception, all the students who came from outside states to this college to take up this work, went to promising positions in this territory, in Mexico, Cuba and other points.

The work of this department has been greatly hampered and retarded in the past few years for the lack of sufficient room. The advantages offered by the department are so unusual as to attract many students from distant points, as well as from our own territory; but it is of little use for us to advertise these advantages as they deserve to be advertised unless we can accommodate the students who come to us. Last year's enrollment in this department taxed the available space at our command to the utmost. The class room was overcrowded to the extent of inconvenience and with the result that the conditions were unsanitary. If the department of stenography and typewriting is to develop as it should, it is absolutely essential that it be provided with additional rooms or larger quarters.

The work in typewriting has been satisfactorily prosecuted and is under and the direction of Mr. John O. Miller, assistant in the department.

## PREPARATORY.

The special work of this department is to prepare students for the higher courses of study of the college. In order to do this it is very necessary that the students be amply provided with pleasant healthful rooms. Unfortunately it must be stated that there is an entire absence of such rooms for this department. Notwithstanding the excellent corps of experienced teachers, it is impossible for the students to secure proper development on account of the unsuitable character of their study and recitation rooms. The room where the majority of the students study or recite, is so low, dark and poorly ventilated that several students have been injured in health and received temporary injury to their eyesight.

The department has an excellent supply of globes, historical, political and relief maps, dictionaries, encyclopedias, measuring instruments, mathematical blocks, etc. On suitable occasions, the other departments of the college loan their appliances to assist in illustrating the subjects taught, or in making experiments. The department, also, has a fine piano to assist in musical instruction, in recreations, or in the literary exercises.

The department has a fair sized library for the special use of its students, and they are also encouraged to use the books, papers and magazines of the general library.

The Lincoln Literary Society is maintained by the voluntary efforts of the students, under the direction of the teachers. It has done and is doing most excellent work. Each week the members spend an hour in general discussion, literary work and parliamentary drill. About every three weeks a program of a miscellaneous nature is produced, affording a pleasant and most helpful recreation for all.

The enrollment in the department for the year ending June, 1904, was 116; the average attendance was 80; the per cent of attendance 94.05. The enrollment for the first three months of the present year is just 100. There has been a slight improvement in the regularity of attendance and a very marked improvement over former years in the general character of the students and in their preparation for entering our classes.

If the department could let it be known that it would be certain to have good study and recitation rooms next year, the attendance would surely be twice what it is at present.

Respectfully,
LUTHER FOSTER, President.